

Roll No. of Candidate : 00104

BIOLOGY

Intermediate Part-II, Class 12th (1st A 423- II)

Paper: II Group – II

Time: 20 Minutes

OBJECTIVE Code: 8464 674-12-2-23 Marks: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

1. A localized group of species belonging to the same species is called as
(A) community (B) population (C) ecosystem (D) biosphere
2. In which of the following neurons, length of dendrites is greater than axon
(A) relay neuron (B) sensory neuron (C) motor neuron (D) associative neuron
3. Protein found within spindles is
(A) collagen (B) myosin (C) actin (D) tubulin
4. Which one of the following observations does not match with Darwin's idea of natural selection?
(A) over production (B) survival of the fittest
(C) variations (D) inheritance of acquired characters
5. The tRNA anticodon "GAC" is complementary to the mRNA codon with the sequence
(A) CUG (B) CAG (C) CTG (D) GAC
6. The process of moulting is controlled by the nervous system and a hormone called
(A) aldosterone (B) androgen (C) ecdysone (D) oxytocin
7. Transgenic animals are prepared through
(A) genetic engineering (B) cloning (C) mutation (D) PCR
8. Type of muscle having regular striations and many nuclei per cell
(A) smooth muscle (B) skeletal muscle (C) cardiac muscle (D) all of these
9. It is not a function of kidney
(A) excretion (B) osmoregulation (C) formation of urine (D) formation of urea
10. Which of the following is a renewable resource?
(A) coal (B) oil (C) land (D) natural gas
11. The head can be regenerated in
(A) frog (B) leech (C) earthworm (D) grasshopper
12. *Felis bengalensis* has the zoologist name of
(A) leopard cat (B) leopard (C) cat (D) tiger
13. RNA polymerase consists of
(A) sigma factor (B) sigma factor and core enzyme
(C) core enzyme (D) sigma factor and full enzyme
14. Mature sperms are formed from spermatids through
(A) mitosis (B) meiosis-I (C) meiosis-II (D) differentiation
15. Cell bodies of sensory neurons constitute
(A) dorsal root ganglion (B) dorsal root
(C) ventral root ganglion (D) posterior root ganglion
16. Haemophilia "A" is
(A) x-linked recessive (B) factor viii abnormality
(C) both (A) and (B) (D) factor ix abnormality
17. Which of the following describes aspartame?
(A) anticlotting agent (B) biodegradable plastic
(C) artificial sweetener (D) transgenic bacteria

319-(II)- 1st A 423-20000

Time: 2:40 Hours

SUBJECTIVE

Marks: 68

Note: Section I is compulsory. Attempt any THREE (3) questions from Section II.

Guj-12-2-23

SECTION - I**2. Write short answers to any EIGHT questions.**

(2 x 8 = 16)

- i. What are the causes of renal failure?
- ii. Differentiate between endotherm and ectotherm.
- iii. What is feedback mechanism?
- iv. What is hydrostatic skeleton? Give one example.
- v. Compare osteomalacia and osteoporosis.
- vi. What are the causes of muscle fatigue?
- vii. What is the role of phytochromes in plants?
- viii. How diploid parthenogenesis takes place in aphids?
- ix. Which kind of life is present in profundal zone of lake ecosystem?
- x. What is the impact of humans on temperate deciduous forests?
- xi. What are the causes and effects of greenhouse effects?
- xii. What are the consequences of population increase?

3. Write short answers to any EIGHT questions.

(2 x 8 = 16)

- i. What is parasympathetic nerve system?
- ii. How is parkinson's disease caused?
- iii. What is latent learning?
- iv. Differentiate autosomes and sex chromosomes.
- v. What do you mean by multifactorial trait?
- vi. What are the causes of type-I diabetes?
- vii. What is a probe?
- viii. Give an application of transgenic plants?
- ix. What are the goals of human genome project?
- x. Define synecology.
- xi. How do fungi give and take benefits in mycorrhizal association?
- xii. Differentiate gross primary production and net primary production.

4. Write short answers to any SIX questions.

(2 x 6 = 12)

- i. Differentiate primary growth from secondary growth in plants.
- ii. Flatworms develop lost body parts. Discuss it.
- iii. One gene – one enzyme hypothesis has been changed to one gene – one polypeptide hypothesis. Comment on it.
- iv. How all organisms use same basic mechanism of reading and expressing the genes?
- v. A point mutation causes the production of a defective enzyme. Comment on it by referring phenylketonuria.
- vi. Give at least two differences of mitosis and meiosis.
- vii. Just give names of substages of prophase – I of meiosis.
- viii. Differentiate Theory of Special Creation from Theory of Natural Selection.
- ix. Distinguish homologous organs from analogous organs by giving examples.

SECTION - II

5. (a) Draw and explain urinary system of man. (4)
- (b) Discuss meiotic error (non-disjunction) with two syndromes. (4)
6. (a) Illustrate the ultrastructure of myofilaments of human skeletal muscle fiber. (4)
- (b) Describe the flow of energy in the food chain of an ecosystem. (4)
7. (a) How is nervous system of Planaria better developed than that of Hydra? Discuss. (4)
- (b) How does comparative anatomy support evolution? (4)
8. (a) What is epistasis? Explain with reference to Bombay phenotype. (4)
- (b) Describe vernalization. Give its importance. (4)
9. (a) Why did Spemann designated the dorsal lip area as primary organizer? Explain with his experiment. (4)
- (b) What is genomic library? How would you locate a gene of interest in the library? (4)